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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/338,622	06/23/1999	SADAO TAKAHASHI	RCOH-1012	1614

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EXAMINER

WORKU, NEGUSSIE

ART UNIT PAPER NUMBER

2624

DATE MAILED: 03/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/338,622

Applicant(s)

TAKAHASHI, SADAO

Examiner

Negussie Worku

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)




JEROME GRANT III
PRIMARY EXAMINER

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 7
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, and 6-9, are rejected under 35 U.S.C. 102(b) as being anticipated by Shimura (USP 5,886,797).

With respect to claim 1, Shimura discloses a method of edge enhancement (edge enhancement unit 6 of fig 1) as discussed, see (col.4, lines 58-61), extracting a high frequency portion of data representative of relative light intensity of pixel, (extracting unit 2 of fig 1, provides spatial filtering process to define an edge amount of reference pixel to extract high frequency portion of data, using buffer 1 of fig 1 to a high-pass filtering process, see (col. 3, lines 65-67, and col.4, lines 3-5); determining a correction coefficient (correction coefficients are shown in figs 4b and 4c, high pass filtering correction coefficients which can be utilized are shown in figs 4B and 4C), see col.4, lines 27-30) based upon a sign and a value (sign and value, + and -, performed by the extracting unit 2 of fig 1), of the extracted high frequency portion of the data the sign being indicative of a relation between the relative light intensity of the pixel and that

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of the pixel surrounding the pixel, see (col.4, lines 37-39); and correcting the data upon the correction coefficient, see (col.4, lines 55-60).

With respect to claim 2, Shimura et al. discloses the method of edge enhancement (edge enhancement unit 6 of fig 1), wherein said sign is positive when a value of the data representative of the relative intensity of the pixel is smaller than that of surrounding pixels, see (col.7, lines 15-10).

With respect to claim 3, Shimura et al. discloses the method of edge enhancement ((edge enhancement unit 6 of fig 1) wherein said sign is negative when a value of the data representative of the relative intensity of the pixel is greater than that of surrounding pixels, see (fig 4A-4c).

With respect to claim 4, Shimura et al. discloses the method of edge enhancement ((edge enhancement unit 6 of fig 1)), wherein the data representative of the relative light intensity of the pixel is obtained from an input signal representative of color green (G) in RGB input signals, see (col.5, lines 20-27).

With respect to claim 6, Shimura et al. discloses a system for edge enhancement ((edge enhancement unit 6 of fig 1), comprising an extraction unit (2 of fig 1, provides spatial filtering for higher frequency components, see col.5, lines 50-55) extracting high frequency component for extracting a high frequency portion of data representative of relative light intensity of pixel, see (col.5, lines 50-55); a determining unit (6 of fig 1) connected to said extraction unit (edge enhancement unit 6 of fig 1), see (col.10, line

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41), comprising an extraction unit (2 of fig 1), for determining a correction coefficient based upon a sign and a value of the extracted high frequency portion of the data the sign being indicative of a relation between the relative light intensity of the pixel see (col.6, lines 25-30) and that of pixels surrounding the pixel, see (fig 4A-4c); and a correction unit (62 of fig 13), see (col.15, lines 25-30), connected to said determination unit (6 of fig 1) and said extraction unit (2 of fig 1) for correcting the data based upon the correction coefficient.

With respect to claim 7, Shimura et al. discloses the method of edge enhancement (6 of fig 1 shows the edge enhancement unit, as discussed, see (col.3, lines 52-53), wherein said sign is positive when a value of the data representative of the relative intensity of the pixel is smaller than that of surrounding pixels, see col.6, lines 29-33).

With respect to claim 8, Shimura et al. discloses the method of edge enhancement (6 of fig 1) wherein said sign is negative when a value of the data representative of the relative intensity of the pixel is larger than that of surrounding pixels, see (col.6, lines 29-33).

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With respect to claim 9, Shimura et al. discloses the method of edge enhancement, see (6 of fig 1) wherein the data representative of the relative light intensity of the pixel is obtained from an input signal representative of color green (G) in RGB input signals, see (col.5, lines 25-28).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5 and 10, are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimura et al. (USP 6,388,706) in view of Norimatsu (USP 6,415,053).

With respect to claim 5, Shimura et al. discloses the method of edge enhancement (6 of fig 2), wherein the data representative of values is stored (in line buffer 1 of fig 1) for selecting the correction coefficient value).

Shimura does not disclose a lookup table for storing values of the data representative.

However, Norimatsu discloses a lookup table, see (col.19, lines 47-48). Since Shimura and Norimatsu are both directed to the same field endeavor, and related to an image processing method and apparatus employing that method for

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subjecting the obtained image data to specified image processing operation such as sharpness enhancement, the purpose of having a lookup table for storing value of data, would have been recognized by Shimura as set forth by Norimatsu.

It would have been obvious to modify image reading device of Shimura, in view of Norimatsu to insert look up table in between CPU 64 of fig 1, and external interface 66 of fig 13, for the purpose of storing value data.

Therefore, it would have been obvious to combine Shimura as modified by Norimatsu et al. to obtain the invention as specified in claim 5.

With respect to claim 10, Shimura et al. discloses the method of edge enhancement (6 of fig 2), wherein the data representative of values is stored (in line buffer 1 of fig 1) for selecting the correction coefficient value).

Shimura does not disclose a lookup table for storing values of the data representative.

However, Norimatsu discloses a lookup table , see (col.19, lines 47-48). Since Shimura and Norimatsu are both directed to the same field endeavor, and related to an image processing method and apparatus employing that method for subjecting the obtained image data to specified image processing operation such as sharpness enhancement. the purpose of having a lookup table for storing value of data. would have been recognized by Shimura as set forth by Norimatsu.

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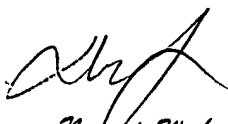
It would have been obvious to modify image reading device of Shimura, in view of Norimatsu to insert look up table in between CPU 64 of fig 1, and external interface 66 of fig 13, for the purpose of storing value data.

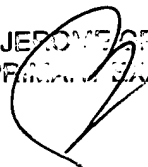
Therefore, it would have been obvious to combine Shimura as modified by Norimatsu et al. to obtain the invention as specified in claim 10.

5. Any inquiry concerning this communication or earlier communication from Examiner should be directed to Negussie Worku whose telephone number is (703) 305 5441.

The Examiner can normally be reached on M-F, 9 am - 6 pm if attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, David Moore, can be reached on (703) 308-7452.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314, and any inquiry of general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.


Negussie Worku
02/14/03


JEROME GRANT II
PATENT EXAMINER